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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,443	12/19/2001	Charles L. Gray JR.		2093

7590

04/24/2003

LORUSSO & LOUD
3137 Mount Vernone Avenue
Alexandria, VA 22305

EXAMINER

HOOK, JAMES F

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 04/24/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,443

Applicant(s)

Gray

Examiner

James F. Hook

Art Unit

3752



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Legrand.

The patent to Legrand discloses the recited hydraulic accumulator comprising a rigid tank 1, there are first and second fixtures at each end of the tank for communication with a fluid through the bottom fixture in the area of reference numeral 14 and with a gas through the top fixture in the area of reference numeral 7, a flexible metal non elastic bladder 13 in the form of a bellows made of a metal alloy called INCONEL that separates the interior of the tank into a gas space 18 and a fluid space 17 inside of the bladder, a shut off valve 37 will inherently stop flow when the liquid hits a minimum value and is surrounded by a spring that mounted within the second fixture attached to it, and where a vent 21b for any gas accumulated in the liquid side of the bellows can be vented.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Miller. The patent to Miller discloses the recited hydraulic accumulator comprising a rigid tank 18, there are first and second fixtures 23,24 and the unmarked tube between reference numerals 22 and 27 for

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communication with a fluid through the bottom fixtures 23,24 and with a gas through the top fixture in the area of reference numeral 22, a bladder 20 in the form of a gas filled bladder separates the interior of the tank into a gas space and a fluid space inside of the bladder, and where a vent 27 for any gas accumulated in the liquid side of the bellows can be vented where the vent 27 is considered in the end of the tank.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legrand in view of Weber. The patent to Legrand discloses all of the recited structure with the exception of reversing the bellows such that the gas fills the inside of the bellows. The patent to Weber discloses the recited hydraulic accumulator comprising a rigid tank 3 having a gas charge area 5, a liquid fixture 2 provided with a valve element 20, metal bellows 9, where in figure 1 the bellows are set up where the liquid area 8 is inside of the bellows, and in figure 2 the bellows is reversed to contain the gas. It would have been obvious to one skilled in the art to modify the bellows in Legrand by reversing the bellows to allow the gas to fill the bellows as suggested by Weber as

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such is an alternate embodiment for the bellows that would change the manner in which the fluid is controlled to meet the needs of the user.

6. Claims 6-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legrand in view of Pietrykowski. The patent to Legrand discloses all of the recited structure with the exception of forming the bellows of a hard plastic or a metal and plastic, and the thickness of the bellows. The patent to Pietrykowski discloses the recited hydraulic accumulator comprising a rigid tank 11 having a gas area 25, a liquid area 31, bellows 22 which can be formed of a metal and plastic material or only plastic materials. The use of any thickness metal is considered an obvious choice of mechanical expedients where it would have been obvious to one skilled in the art to modify the bellows in Legrand to be of any thickness desired using routine experimentation to arrive at optimum values as such is merely a choice of mechanical expedients. It would have been obvious to modify the bellows in Legrand to be formed of a metal and plastic or just plastic bellows as suggested by Pietrykowski as such would be a cheaper material to make the bellows from and yet still be a stiff bellows structure.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Legrand in view of Weber as applied to claims 4 and 5 above, and further in view of Miller. The patent to Legrand as modified discloses all of the recited structure with the exception of placing the vent for gas in the wall instead of the bellows. The patent to Miller discloses the recited structure above. It would have been obvious to one skilled in the art to modify the valve in Legrand as modified by placing it on the housing wall to allow for venting of gas in the liquid without venting

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it into the gas chamber as suggested by Miller, which would prevent changing of the gas volume due to unexpected venting of the gas from the liquid into to the gas area.

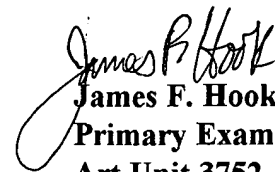
8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Legrand in view of Thompson. The patent to Legrand discloses all of the recited structure with the exception of providing a spring inside of the bellows running the length of the bellows. The patent to Thompson discloses the recited hydraulic accumulator comprising a rigid tank 12, metal bellows 14, which can be provided with a spring 62 running the length of the bellows. It would have been obvious to one skilled in the art to modify the bellows in Legrand by providing a spring in the bellows to further control the deflection of the bellows as suggested by Thompson to allow for a stiffer bellows structure.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Albrecht, Zahid, Chheda, Randa, Mohr, Larsen, Ruffer, Shimboi, and Drumm disclosing state of the art accumulators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Hook whose telephone number is (703) 308-2913.

J. Hook
April 21, 2003


James F. Hook
Primary Examiner
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